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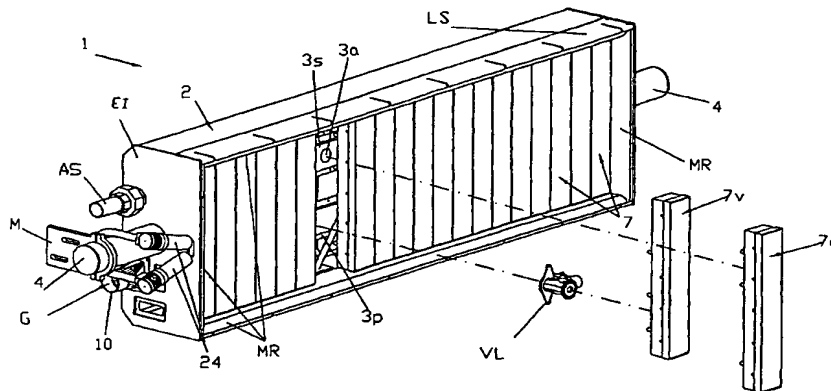
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(54) Title: MODULAR INFRARED IRRADIATION APPARATUS AND ITS CORRESPONDING MONITORING DEVICES



(57) Abstract: Heat irradiation apparatus (1) defined in terms of the following: - Refractory flexible irradiation module (7) comprising stopping means which are high temperature resistant and avoid shadow zones and side losses of heat at the burning zone in the ceramic surface; - Employment of refractory flexible ceramic plates (15) having flexible pores which permit air/gas modulation, the flexible pores permit define the path of the air/gas mixture through the ceramic plate (15). When the flow pressure of mixture is reduced, part of the pore automatically close and the combustible mixture is conducted to the surface where the hot fibers are placed. The fibres keep the combustion active at the surface, multiplying IR heating effects. Ceramic plates (15) of the art tend to "swallow" the flame causing an inner burning and reducing the efficiency of the process and/or loss of the control of the flame and equipment explosion. - Sensors and measuring means are provided for monitoring all steps: *Thermal sensor* (14) - safety device applied in the lower face of each flexible fibrous ceramic module (15), more particularly fixed in the support screen of the ceramic plate (15) and extending to median line of such plate (15), for monitoring a possible heat flow inversion due to external factors which cause the "flame swallowing". The apparatus further comprises oxygen measuring means (23) and an ultraviolet flame detector (24).